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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/713,108 | 11/17/2003 | Klaus Herberg | 028987.52638US | 9780 |
| 23911 | 7590 | 03/08/2005 | EXAMINER | |
| CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300 | | | RODRIGUEZ, SAUL | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3681 | |

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

R

Office Action Summary

| | | |
|--|---------------------------------------|--|
| Application No. 10/713,108 Examiner Saúl J. Rodriguez | Applicant(s) HERBERG, KLAUS | |
|--|---------------------------------------|--|

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-19 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 17 November 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____. |
|---|--|

DETAILED ACTION

This is a first office action on the merits of patent application S. N. 10/713,108.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: The reference to U.S. Patent 5,452,728 (Iams) appears to be inaccurate. The patent corresponds to a support system instead of the alleged clutch disk apparatus.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 3, 5, 6, 9, 10 and 12-18 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Since it is widely accepted in the field of tribology that static coefficient of frictions have a higher value than dynamic coefficients, the claim that the coefficient of friction decreases as the speed differential between the relatively rotating components approaches zero seems to defy accepted engineering principles (see 22 -- Fig. 5). It would have been expected, however, an abrupt increase of the coefficient of friction at the convergence point (3.6 sec) of lines 19 and 20.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "largely" in claims 1 and 12 is a relative term which renders the claim indefinite. The term "largely" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Specifically, it is noted that the clutch of the preferred embodiment of the invention still produces shudder (fluctuations with an amplitude of up to 40 Nm – line 15, Fig. 4) throughout the grinding period of the friction members. In other words, since the shudder appears to be merely minimized, the degree at which one friction member would be "largely shudder insensitive" is unascertainable. For the same reasons, the other terms of degree (e.g., "high", "high-end") found in claims 3 and 12 further add to the indefiniteness of the claims.

Concerning claims 2 and 12, the frame of reference for the reduction in coefficient of friction is unascertainable as claimed. In other words, from the claim language, it is unclear if the reduction occurs as a function of one of countless possible parameters (e.g., temperature, wear, age, radius, etc.).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyoshi et al. ('784) in view of Seitz et al. ('681).

Miyoshi et al. discloses a conventional multi-disc clutch with driving and transmission disks. Miyoshi et al. does not teach the claimed composition of the disks. Seitz et al., on the other hand, discloses a friction surface for a clutch device "largely shudder insensitive" (Col. 8, lines 42-45), wear resistant (Col. 8, lines 10-12), a consistent coefficient of friction, and thermally stable (Col. 8, lines 36-39). Also, Seitz et al. discloses a friction material comprising phenolic resin (Col. 9, lines 24-41), ceramic, brass, iron, copper, aluminum, silicon, ceramic (Col. 12, lines 28-48), and sulfur (Col. 12, lines 64-67; Col. 13, lines 1-3), and fibers of various lengths (Col 14, lines 36-54). Then, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the friction surface of Seitz et al. in the multi-disk clutch of Miyoshi et al. for superior texture control.

Regarding the claimed fiber length and specific composition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrive to the desired fiber length and composition by volume, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoneda ('989) discloses a friction disk with reduced shudder. Yamane ('872) discloses a friction material with a comprising ingredients similar to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saúl J. Rodríguez whose telephone number is (703) 308-7575. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (703) 308-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Saúl J. Rodríguez
Examiner
Art Unit 3681


SJR